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10/068,627	02/06/2002	Kevin Alan Williams	71402	8232

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EXAMINER

MCCLENDON, SANZA L

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/068,627

Applicant(s)

WILLIAMS ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-18, 22-32, 35, 40 and 41 is/are rejected.
- 7) ☒ Claim(s) 10-11, 19-21, 33-34, and 36-39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

*Claim Objections*

1. Claims 23 and 41 are objected to because they are the same claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 18 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear in claims 18 and 35 what exactly component (b) an adhesive comprises. Is applicant intending the adhesive to be another totally different adhesive composition, in addition to components (a) and, optionally, (c)? Is applicant intending the adhesive to be a tackifying resin, such as commonly known in adhesive compositions? Is applicant intending the adhesive to be a crosslinking compound, such as a diethylenically unsaturated compound, which can form a bond with component (a) and a substrate? Is applicant intending the adhesive to be an adhesion-promoting agent, such as a silane compound? Clarification is requested.

*Claim Rejections - 35 USC § 102/ 35 USC § 103*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4-5, 12-17, 23, and 40 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kanetou et al (5,728,767).

Kanetou et al teaches aqueous resin compositions and methods of preparing. Said compositions comprise a modified polyolefin polymer or copolymer, one or more (meth) acrylic monomers, a surfactant, a polymerization initiator, water, crosslinking components, and other components, such as basic components—see abstract and columns 7, 8, and 14. Said modified polyolefin is the reaction product of a functionalized polyolefin and a hydroxyalkyl (meth) acrylate—column 7, lines 10-17. Said functionalized polyolefin is a reaction product of a polyolefin polymer or copolymer and a □□□-unsaturated carboxylic acid or their acid anhydride. This teaches appears to anticipate claims 1-2 and 4-5. Said polyolefin, per example, are copolymers of propylene and ethylene that has small amounts of butene reacted within or homopolymers of propylene—column 6, lines 15-25. Said surfactant can be found in columns 7, lines 20 to the end to column 8, lines 1-43. Per example, Kanetou et al teaches using polyalkoxylated nonylphenyl ethers, which appears to anticipate claim 13. Said basic components can be found in column 14, lines 45-65, wherein morpholine and others are taught that anticipate claim 14. Where said basic component is added in amounts from 0.3 to 1.5 times the equivalent hydrophilic groups are in the composition. The polymerization initiators taught could be water-soluble or oil soluble initiators, wherein peroxides are

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exemplified, which anticipates claim 15. The one or more (meth) acrylic monomers are deemed to anticipate claims 16 and 17 and can be exemplified by those taught in column 8, lines 65-67 to column 9, lines 1-20, wherein butyl (meth) acrylate, vinyl acetate, and glycidyl (meth) acrylates are taught. Kanetou et al teaches coating organic and inorganic substrates with said aqueous compositions, which anticipates claims 23 and 40.

Kanetou et al does not expressly teach the functionalized polyolefin is prepared from a polyolefin having a heat of fusion of 0 to 10 calories/gram. However, Kanetou et al teaches the same polyolefin components expressed by claim 2, therefore the polymers of Kanetou are deemed to inherently possess the same heats of fusion. However, in the alternative, since applicant fails to establish the criticality of such heats of fusion and the examiner believes since any range of heat of fusion properties for said olefins could have been used since the composition would have worked equally as well as suggested by the prior art.

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 24-25, 27-28, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanetou et al (5,728,767).

Kanetou et al teaches aqueous resin compositions and methods of preparing. Said compositions comprise a modified polyolefin polymer or copolymer, one or more (meth) acrylic monomers, a surfactant, a polymerization initiator, water, crosslinking components, and other components, such as basic components—see abstract and columns 7, 8, and 14. Said modified polyolefin is the reaction product of a functionalized polyolefin and a hydroxyalkyl (meth) acrylate—column 7, lines 10-17. Said functionalized polyolefin is a reaction product of a

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polyolefin polymer or copolymer and a □□□-unsaturated carboxylic acid or their acid anhydride. This teaches appears to anticipate claims 24-25 and 27-28. Said polyolefin, per example, are copolymers of propylene and ethylene that has small amounts of butene reacted within or homopolymers of propylene—column 6, lines 15-25. Said surfactant can be found in columns 7, lines 20 to the end to column 8, lines 1-43. Kanetou et al teaches coating organic and inorganic substrates with said aqueous compositions, which anticipates claim 41.

*Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 6-9, 22, 26, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiomi et al (4,229,754) in view of Kanetou et al (5,728,767) and a teaching reference (George Odian's Principles of Polymerization (1970)).

Shiomi et al teaches surface treating agents and methods for its production. Said surface treating agents comprise a modified polyolefin polymer, which results from graft copolymerisation of propylene-ethylene copolymers with maleic acid or maleic anhydride in the presence of a peroxide initiator. Per examples, Shiomi et al teaches using at least 6% by weight of the peroxide initiators, which reads on claims 9 and 32. Said propylene-ethylene copolymer preferably comprises from 50 to 75% propylene units—see column 2, lines 43-47. This appears to anticipate the range for claim 3. Shiomi et al teaches that when said

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modification is carried out in an organic solvent the resulting reaction solution can be used as sprayable coating solution after dilution adjusting the concentration of modified polyolefin to the appropriate solvent level with or without dilution with the same or different organic solvent, wherein said solvents are aromatic, aliphatic, or chlorinated hydrocarbon solvents.

It is noted that Shiomi et al does not expressly modifying the modified polyolefin with an ethylenically unsaturated component as taught in claim 1, however Kanetou et al teaches modifying carboxyl functionalized polyolefins with hydroxyalkyl (meth) acrylates.

Shiomi et al and Kanetou et al are analogous art because they are from the same field of endeavour that is the art of modified polyolefin primer compositions.

Kanetou et al teaches that modifying carboxyl-containing polyolefins allows for more uniform crosslinking, which improves performance of coated films.

Therefore, it would have been obvious for a artisan of ordinary skill to modify the carboxyl-containing polyolefins as taught by Shiomi et al with hydroxyalkyl (meth) acrylates as suggested by Kanetou et al. The motivation would have been to obtain a primer composition with improved performance, such as adhesion, by insuring uniformed crosslinking upon polymerisation of the primer coating composition.

Shiomi et al teaches that said compositions are suitable as primers for paint compositions. Per examples 6-16, Shiomi et al teaches priming a substrate with said surface treating agent composition, polymerising said composition, then coating a paint composition onto said primed substrate, and then curing said paint composition.

It is noted Shiomi et al does not expressly teach curing said surface treating agent composition using ultraviolet radiation, however the examiner contends since a skilled artisan would have found it obvious to modify the carboxyl-containing polyolefin with (meth) acrylate groups, it would have been obvious for a skilled artisan to cure said composition using ultraviolet radiation. It is well known that any monomer or moiety will undergo chain reaction polymerisation is susceptible to photopolymerization or photo-sensitiser polymerisation, wherein the absorption of light produces free radicals or ions, as suggested by George Odian in the Principles of Polymerization, chapter 5, page 97. Thus, it would have been obvious to cure said composition with ultraviolet radiation. The motivation would have

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been to obtain a faster curing mechanism with adequate success in the absence of unexpected results.

11. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanetou et al (5,728,767) in view of a teaching reference to George Odian's Principles of Polymerization (1970).

It is noted Kanetou et al does not expressly teach curing said surface treating agent composition using ultraviolet radiation, however the examiner contends, it would have been obvious for a skilled artisan to cure said composition using ultraviolet radiation. It is well known that any monomer or moiety will undergo chain reaction polymerisation is susceptible to photopolymerization or photo-sensitiser polymerisation, wherein the absorption of light produces free radicals or ions, as suggested by George Odian in the Principles of Polymerization, chapter 5, page 97. Thus, it would have been obvious to cure said composition with ultraviolet radiation in the presence of the water-soluble initiators, such as peroxide. The motivation would have been to obtain a faster curing mechanism with adequate success in the absence of unexpected results or evidence to the contrary.

*Allowable Subject Matter*

12. Claims 10-11 and 33-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 19-21 and 36-39 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach adding auxiliary polymerizable monomers and/or oligomers to solvent-based primer formulations comprising a modified polyolefin as defined by applicant's invention. In addition, the prior art fails to teach an adhesive composition comprising the modified polyolefin as defined by applicant's invention.



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*Conclusion*

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,412,029 to Elm et al teaches esterification of acid-modified polyolefins with acrylates and methacrylates having free hydroxyl groups to obtain radiation crosslinkable poly-olefins. EP 0 767 186 B1 is being cited as the European equivalent to US 5,728,767 to Kanetou et al

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.

Sanza L McClendon

Examiner

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SMc



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700